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Separation and Structural analysis of 8-Hydroxy-4,6-dimethylcoumarin from *Rhcm coreanum* Nakai

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Alzheimer's disease(AD) is a neurodegenerative disorder characterized by a progressive deterioration of memory and learning. So far, exact factors of this disease is unknown but various therapeutic strategies have been tested for the AD treatment. Among them, development of AChE inhibitors is the AD therapeutic agents. The drug currently licened in the USA for the management of AD is tacrine, under the brand name Cognex, which is very potent AChE inhibitor.

Acetylcholinesterase(AChE) is an important enzyme in the central and peripheral nervous systems and in the transmission of nerve impulses across nerve-nerve and neuromuscular synapses.

The role of the enzyme is to hydrolyze the neurotransmitter acetylcholine (ACh) to acetate and choline. The arrival of a nerve impulse to the resynaptic membrane leads to release of ACh into the synaptic cleft. The ACh molecules then diffuse to the postsynaptic membrane, where they combine with specific receptor molecules.

Then ACh is hydrolyzed by AChE and the polarization of the postsynaptic membrane is restored.